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EXAMINER				
KRISHNAN, VIVEK V				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/566,274

Applicant(s)

GROUZDEV ET AL.

Examiner

Vivek Krishnan

Art Unit

2445

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-8,11-13,15-19 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8,11-13,15-19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is responsive to the Amendment/Arguments filed on March 25, 2010. Claims 1-3, 6-8, 11-13, 15-19, and 21-23 are pending.

Response to Arguments

1. Applicant's arguments with respect to Claim Rejections under 35 U.S.C. 102(e) have been fully considered but they are not persuasive.

As to Applicant's arguments with respect to Claims 1, 21, and 23:

a. Applicant argues that there is no teaching or suggestion of the limitation - the first operating system comprises a transmission scheduler is arranged to selectively enable the first operating system or the second operating system to transmit data via the network interface, thereby to allocate transmission capacity between the two operating systems. Applicant argues that there is no suggestion in Yodaiken that the event handlers perform any scheduling function. Applicant argues that the VND in Yodaiken performs no scheduling function related to the allocation of transmission capacity between the first and second operating systems and that the VND is provided in the secondary operating system whereas the claim recites that the transmission scheduler is provided in the first operating system.

Yodaiken, Figures 2 and 4-5 and corresponding description, clearly discloses that the event handlers/threads operate in conjunction with the VND to perform scheduling functions to allocate transmission capacity between the two operating systems. The event handler and VND function to identify critical and non-critical packets for the operating systems and thereby selectively enable transmission of data for either of the operating systems. The NCS and event

handler are provided in the first operating system, hence, the first operating system comprises a transmission scheduling function as recited in the claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 6-8, 11, 12, 15, 18, 19, and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,782,424 to Yodaiken (hereinafter "Yodaiken").

4. As to Claim 1, Yodaiken discloses a computer system configured for communications, comprising:

a processor (Yodaiken; Figures 1-2);

a first operating system running on the processor (Yodaiken; Figures 1-2; supervisory operating system);

a second operating system running on the processor (Yodaiken; Figures 1-2; secondary operating system); and

a network interface for communicating data (Yodaiken; Figures 1-2; network device),

wherein the first and second operating systems are arranged to share usage of the network interface (Yodaiken; Figures 1-2; operating systems share network interface);

the network interface operates using a single set of network logical addresses common to both operating systems (Yodaiken; Figures 1-2, column 6 lines 6-25; operating systems share network interface and logical connections),

the first operating system comprises a transmission scheduler is arranged to selectively enable the first operating system or the second operating system to transmit data via the network interface, thereby to allocate transmission capacity between the two operating systems (Yodaiken; Figures 1-2 and 4-5, column 6 lines 60-67, column 7 lines 1-8, column 8 lines 16-58, column 9 line 35 - column 10 line 39; event handlers and queues for selectively enabling transmission of data by operating systems);

the first operating system comprises a first proxy driver program, and a network interface driver program for communicating data from the network interface to the first operating system (Yodaiken; Figures 1-2; NCS and device driver);

the second operating system, instead of a network interface driver program, comprises a second proxy driver program for communicating with the first proxy driver program (Yodaiken; Figures 1-2; virtual device driver); and

executable computer program code defining the first operating system is arranged to receive all data incoming through the network interface and to forward to the second operating system data not specifically for use by the first operating system or applications running thereon via the first and second proxy driver programs (Yodaiken; Figures 1-2, column 6 lines 25-37, column 6 lines 60-67, column 7 lines 1-8, column 7 lines 62-67, column 8 lines 1-8; supervisory

operating system receives all incoming data and forwards to secondary operating system data not specifically for use by supervisory operating system).

5. As to Claim 2, Yodaiken discloses the system according to claims 1 and 21. Yodaiken further discloses in which the first operating system is a real time operating system (Yodaiken; column 4 lines 36; real-time operating system).

6. As to Claim 3, Yodaiken discloses the system according to claims 1 and 21. Yodaiken further discloses in which the second operating system is a general purpose operating system (Yodaiken; column 5 lines 65; traditional operating system).

7. As to Claim 6, Yodaiken discloses the system according to claim 21. Yodaiken further discloses in which the transmission scheduler is arranged to give priority to the first operating system (Yodaiken; column 4 lines 35-45; real time supervisory operating system given priority).

8. As to Claim 7, Yodaiken discloses the system according to claim 21. Yodaiken further discloses in which the transmission scheduler is arranged not to send any packets from the second operating system while there are packets for transmission from the first operating system (Yodaiken; Figure 3; critical packets are transmitted over non-critical packets).

9. As to Claim 8, Yodaiken discloses the system according to claims 1 and 21. Yodaiken further discloses which is arranged to communicate using Internet protocols (Yodaiken; column 7 lines 4-5; TCP/IP).

10. As to Claim 11, Yodaiken discloses the system according to claims 1 and 21. Yodaiken further discloses in which said first and second operating systems both operate on a single processor (Yodaiken; Figures 1-2).

11. As to Claim 12, Yodaiken discloses the system according to claim 11. Yodaiken further discloses an inter-operating system communications channel for carrying messages between said first and second operating systems, and/or applications running thereon (Yodaiken; Figures 1-2; NCS).

12. As to Claim 15, Yodaiken discloses the system according to claim 11. Yodaiken further discloses code for providing a real time data transmission channel for communicating data and associated control and/or supervisory signals, in which the code comprises:

first code operating under said first operating system for communicating said data (Yodaiken; Figures 1-2, column 4 lines 1-10; supervisory operating system communicates data);
and

second code operating under said second operating system for communicating said control and/or supervisory signals (Yodaiken; Figures 1-2, column 4 lines 1-10; secondary operating system communicates client control data).

13. As to Claim 18, Yodaiken discloses a method of providing network access to a computer, said method comprising:

providing first and second operating systems on the computer, operating concurrently, while sharing a network address and allowing said operating systems to share access to a network interface of said computer (Yodaiken; Figures 1-2; supervisory operating system and secondary operating system sharing network interface);

receiving all incoming data packets by the first operating system; and forwarding to the second operating system those packets which are not specifically for use by the first operating system or applications running thereon (Yodaiken; Figures 1-2, column 6 lines 25-37, column 6 lines 60-67, column 7 lines 1-8, column 7 lines 62-67, column 8 lines 1-8; supervisory operating system receives all incoming data and forwards to secondary operating system data not specifically for use by supervisory operating system).

14. As to Claim 19, Yodaiken discloses a computer-readable tangible storage media storing executable code for causing a computer to perform the method of claim 18 or 23 (Yodaiken; Abstract; computer program product).

15. As to Claim 21, Yodaiken discloses a computer system configured for communications, comprising:

a processor (Yodaiken; Figures 1-2);

a first operating system running on the processor (Yodaiken; Figures 1-2; supervisory operating system);

a second operating system running on the processor; (Yodaiken; Figures 1-2; secondary operating system),

a network interface for communicating data (Yodaiken; Figures 1-2; network device),
wherein the first and second operating systems are arranged to share usage of the network interface (Yodaiken; Figures 1-2; operating systems share network interface);

the network interface operates using a single set of network addresses common to both operating systems (Yodaiken; Figures 1-2, column 6 lines 6-25; operating systems share network interface and logical connections),

the first operating system comprises a transmission scheduler is arranged to selectively enable the first operating system or the second operating system to transmit data via the network interface, thereby to allocate transmission capacity between the two operating systems (Yodaiken; Figures 1-2, column 6 lines 60-67, column 7 lines 1-8, column 8 lines 16-58; event handlers and queues for selectively enabling transmission of data by operating systems);

the first operating system comprises a first proxy driver program, and a network interface driver program for communicating data from the first operating system to the network interface (Yodaiken; Figures 1-2; NCS and device driver);

the second operating system, instead of a network interface driver program, comprises a second proxy driver program for communicating with the first proxy driver program (Yodaiken; Figures 1-2; virtual device driver); and

the first operating system comprises the transmission scheduler arranged to selectively forward outgoing data from the first and second operating systems for transmission through the network interface data from the second operating system being forwarded via the first and second proxy driver programs (Yodaiken; Figures 1-2, column 6 lines 60-67, column 7 lines 1-8, column 8 lines 16-58; event handlers and queues for selectively enabling transmission of data by operating systems).

16. As to Claim 22, Yodaiken discloses the system according to claims 15 and 16. Yodaiken further discloses in which the second operating system comprises a TCP/IP protocol stack (Yodaiken; Figures 1-2, column 7 lines 4-5; TCP/IP).

17. As to Claim 23, Yodaiken discloses a method of providing network access to a computer, said method comprising:

providing first and second operating systems on the computer, operating concurrently, and sharing a network address while allowing said operating systems to share access to a network interface of said computer (Yodaiken; Figures 1-2; supervisory operating system and secondary operating system sharing network interface),

the first operating system comprising a first proxy driver program, and a network interface driver program for communicating data from the first operating system to the network interface (Yodaiken; Figures 1-2; NCS and device driver);

the second operating system, instead of a network interface driver program, comprising a second proxy driver program for communicating with the first proxy driver program (Yodaiken; Figures 1-2; virtual device driver); and

receiving all incoming network data packets at the network interface of the first operating system which then selectively forwards to the second operating system incoming data packets not specifically for use by the first operating system (Yodaiken; Figures 1-2, column 6 lines 25-37, column 6 lines 60-67, column 7 lines 1-8, column 7 lines 62-67, column 8 lines 1-8; supervisory operating system receives all incoming data and forwards to secondary operating system data not specifically for use by supervisory operating system); and

selectively enabling the first operating system or the second operating system to transmit outgoing data via the network interface of the first operating system, thereby to allocate transmission capacity between the two operating systems (Yodaiken; Figures 1-2, column 6 lines 60-67, column 7 lines 1-8, column 8 lines 16-58; event handlers and queues for selectively enabling transmission of data by operating systems).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yodaiken as applied to Claims 1 and 21 above, and further in view of U.S. Patent No. 5,740,438 to Ratcliff et al. (hereinafter "Ratcliff") (IDS submitted January 30, 2006).

20. As to Claim 13, Yodaiken discloses the system according to claims 1 and 21. Yodaiken strongly suggests but does not explicitly disclose, however Ratcliff discloses in which the first operating system has a first subset of address ports and the second operating system has a second subset of address ports, each said subset comprising at least one address port, said first and second subsets being mutually exclusive (Ratcliff; column 1 lines 12-32, column 2 lines 23-67, column 3 lines 19-62, column 5 lines 53-67, column 6 lines 1-35, column 7 lines 5-65, operating system partitions using different ports).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify critical and non-critical ports for first and second operating systems, as disclosed by Yodaiken, to include that the first operating system has a first subset of address ports and the second operating system has a second subset of address ports, each said subset comprising at least one address port, said first and second subsets being mutually exclusive, as disclosed by Ratcliff, in order to independent allocation of ports to partitions.

21. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yodaiken as applied to Claim 15 above, and further in view of Computer Networks to Tanenbaum (hereinafter "Tanenbaum").

22. As to Claim 16, Yodaiken discloses each and every limitation of Claim 15. Yodaiken does not explicitly disclose, however Tanenbaum discloses a system in which the first operating system is arranged to use a UDP/IP protocol stack to communicate said data (Tanenbaum; 6.4 The Internet Transport Protocols: UDP).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify an operating system comprising a TCP/IP stack, as disclosed by Yodaiken, to include a UDP/IP stack, as disclosed by Tanenbaum, in order to include a connectionless protocol.

23. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yodaiken (and Tanenbaum) as applied to Claim 15 and 16 above, and further in view of U.S. Patent No. 7,450,564 to Han (hereinafter "Han").

24. As to Claim 17, Yodaiken (and Tanenbaum) disclose(s) the system of claims 15 and 16. Yodaiken does not explicitly disclose, however Han discloses implementing a voice-over-Internet communications system (Han; column 4 line 40 - column 5 line 6; RTOS providing VoIP).

It would have been obvious to one of ordinary skill in the art to modify the real time operating system disclosed by Yodaiken to implement a voice over internet communication system because, as evidenced by Han, such systems were well known in the art at the time the invention was made and such a modification would yield predictable results.

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivek Krishnan whose telephone number is (571) 270-5009. The examiner can normally be reached on Monday through Friday from 9:00 AM to 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. K./
Examiner, Art Unit 2445

/VIVEK SRIVASTAVA/
Supervisory Patent Examiner, Art Unit 2445